

APPARATUS FOR SENSING POSITION AND/OR TORQUE**ABSTRACT OF THE DISCLOSURE**

An apparatus for measuring relative displacement between a first shaft and a second shaft includes first and second rotor assemblies. The first rotor assembly is coupled to the first shaft and is centered on an axis. The second rotor assembly is coupled to the second shaft. The second rotor assembly has first and second stator plates. Each of the first and second stator plates includes an upper surface and a lower surface. The upper and lower surfaces are parallel. The first and second stator plates include a plurality of teeth extending in a direction radial of the axis. The first and second stator plates form a gap between the lower surface of the first stator plate and the upper surface of the second stator plate. The apparatus further includes at least one magnet having a magnetic field and disposed on the first rotor assembly and a sensing device disposed within the gap for sensing a magnetic flux of the magnetic field.